

THIE UNITED SHAYES OF AMERICA

Höneer Hi-Ared International, Inc.

MICCONS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, TREEFFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY TEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC RISE ENLISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE USE TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR USE OF THE VARIETY OF THE VARIETY OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE VARIETY OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT SET OF THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, FIELD

'PH6WC'

In Testimone Thereof, I have hereunto set my hand and caused the seal of the Plant Hariety Frotection Office to be affixed at the City of Washington, D.C. this twenty-third day of November, in the year two thousand and seven.

Allost:

Gemze

Commissioner Plant Variety Protection Offico Syricultural Murketing Service Secreta Aure

REPRODUCE LOCALLY, Include form number and	i date on all reproc	luctions		Form Approved - OMB No. 0581-0055			
AGRICULTURAL	NT OF AGRICULT	VIGE	The following statements are made in the Peperwork Reduction Act (PRA) o	accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and			
SCIENCE AND TECHNOLOGY - F APPLICATION FOR PLANT VA (Instructions and information oc	RIETY PROTECTI	ON CERTIFICATE	Application is required in order to deter (7 U.S.C. 2421). Information is held co	mine if a plant variety protection certificate is to be issued unfidential until certificate is issued (7 U.S.C. 2426).			
NAME OF OWNER Pioneer Hi-Bred	l Internatio	nal Inc	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME	3. VARIETY NAME PH6WC			
. ADDRESS (Street and No., or R.F.D. No., City	2.7	•	5. TELEPHONE (include area code)	FOR OFFICIAL USE ONLY			
	62 nd Avenu		515/270-4051	PVPO NUMBER			
	ı, IA 50131-	- -	6. FAX (include area code)	200500252			
			515/253-2125	FILING DATE			
. IF THE OWNER NAMED IS NOT A "PERSON" ORGANIZATION (corporation, partnership, asso		IF INCORPORATED, GIVE STATE OF INCORPORATION	9. DATE OF INCORPORATION	Mars 27 2005			
Corporation	olation, closy	lowa	March 5, 1999	May 17, 2005			
0. NAME AND ADDRESS OF OWNER REPRES	ENTATIVE(S) TO S	SERVE IN THIS APPLICATION, (Fir.	st person listed will receive all papers)	Filing and examination fees:			
•		R. Anderson		R DATE 5/17/05			
Res		Product Development		C CERTIFICATION FEE:			
). Box 85 , IA 50131-0085		\$ \$768.00			
	oon noton,	, 14 00 10 1-0000		E DATE /0/15/07			
TELEPHONE (Include area code)	12. FAX (include	e area code)	13. E-MAIL				
515/270-4051		515/253-2125	stev	en.anderson@pioneer.com			
4. CROP KIND (Common Name) Corn	16. FAMILY NA	ME (Botanical) Gramineae		IN ANY TRANSGENES? (OPTIONAL)			
5. GENUS AND SPECIES NAME OF CROP	17. IS THE VAR	IETY A FIRST GENERATION HYBI	☐ YES ☑ NO RID? IF SO, PLEASE GIVE THE A	SSIGNED USDA-APHIS REFERENCE NUMBER FOR THE			
Zea Mays	☐ YES	⊠ NO		DEREGULATE THE GENETICALLY MODIFIED PLANT FOR			
CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			20. DOES THE OWNER SPECIF	Y THAT SEED OF THIS VARIETY BE SOLD AS A CLASS Section 83(a) of the Plant Variety Protection Act)			
a. 🗵 Exhibit A. Origin and Breeding History of the Variety			☐ YES (If "yes", answer				
b. Exhibit B. Statement of Distinctness c. Exhibit C. Objective Description of Variety				THAT SEED OF THIS VARIETY BE LIMITED AS TO			
d. ☐ Exhibit D. Additional Description of the Variety (Optional) e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership f. ☒ Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. ☒ Filing and Examination Fee (\$3,652), made payable to 'Treasurer of the United			☐ YES ☐ NO				
				☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED			
			22. DOES THE OWNER SPECIFY NUMBER OF GENERATIONS	THAT SEED OF THIS VARIETY BE LIMITED AS TO			
States" (Mail to the Plant Variety Protection Office)			☐ YES ☐ NO	,			
			IF YES, SPECIFY THE NUMB	ER 1,2,3, etc. FOR EACH CLASS.			
			☐ FOUNDATION ☐ RE	GISTERED CERTIFIED			
				ressary, please use the space indicated on the reverse.)			
 HAS THE VARIETY (INCLUDING ANY HARVE FROM THIS VARIETY BEEN SOLD, DISPOSE OTHER COUNTRIES? 				24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)?			
X YES \(\text{NO} \)			☐ YES ☒ NO	☐ YES ☑ NO			
IF YES, YOU MUST PROVIDE THE DATE OF F FOR EACH COUNTRY AND THE CIRCUMSTA				IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)			
The owners declare that a viable sample of bas for a tuber propagated variety a tissue culture was a sample of the control of the con	sic seed of the varie vill be deposited in	ety has been furnished with applicat a public repository and maintained	ion and will be replenished upon request in a for the duration of the certificate,	ccordance with such regulations as may be applicable, or			
The undersigned owner(s) is(are) the owner of the entitled to protection under the provisions of Se			ety, and believe(s) that the variety is new, di	stinct, uniform, and stable as required in Section 42, and is			
Owner(s) is (are) informed that false representa	tion herein can jeop	pardize protection and result in pena	alties.				
IGNATURE OF OWNER			SIGNATURE OF OWNER	Kal			
AME (Closes and asking)			Dave	Muderon			
AME (Please print or type)			NAME (Please print or type)	n D. Anderson			
APACITY OR TITLE	DATE		CAPACITY OR TITLE	en R. Anderson			
			Research Scientist	5/16/2005			
				_			

3ENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid rariety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 illing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials o make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuanc of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office Telephone: (301) 504-5518 FAX: (301) 504-5291

Homepage: http://www.ams.usda.gov/science/pvpo/pvpindex.htm

Fo avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 http://www.ams.usda.gov/lsg/seed.htm.

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19a.Give:

- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- (2) the details of subsequent stages of selection and multiplication:
- (3) evidence of uniformity and stability; and
- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
 - (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d.Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 20. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
- 23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
- 24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filling date.
- 22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)
- 23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

China 2004

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's epresentative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any nodification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The alid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing astructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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o file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD) SDA is an equal opportunity provider and employer.

T-470 (04-03) designed by the Plant Variety Protection Office using Word 2002.

Exhibit A: Developmental history for PH6WC

Pedigree: PH01N/PH09B)XWK52K31K1

Pioneer Line PH6WC, Zea mays L., a yellow endosperm, corn, inbred, was developed by Pioneer Hi-Bred International, Inc. from the single cross hybrid PH01N X PH09B (PVP Certificate Number 9700218) using the pedigree method of plant breeding. Varieties PH01N and PH09B are proprietary inbred lines of Pioneer Hi-Bred International, Inc. Variety PH01N was derived by pedigree selection from a 3-way hybrid PHP38 (Certificate Number 9000250) / PHBW8 (Certificate Number 9200079) * PHHH9 (Certificate Number 9300109). Selfing was practiced from the above hybrid for 7 generations using pedigree selection. During line development, crosses were made to inbred testers for the purpose of estimating the line's combining ability. Yield trials were grown at New Holland, Pennsylvania as well as other Pioneer research locations. After initial testing, additional hybrid combinations have been evaluated and subsequent generations of the line have been grown and hand-pollinated with observations again made for uniformity.

Variety PH6WC has shown uniformity and stability for all traits as described in Exhibit C - "Objective Description of Variety". It has been self-pollinated and ear-rowed 5 generations with careful attention paid to selection criteria and uniformity of plant type to assure genetic homozygousity and phenotypic stability. The line has been increased both by hand and in isolated fields with continued observations for uniformity and stability, and for 2 generations during the final stages of inbred development and seed multiplication. Very high standards for genetic purity have been established morphologically using field observations and using sound lab molecular marker methodology.

No variant traits have been observed or are expected in PH6WC.

The criteria used in the selection of PH6WC were yield, both per se and in hybrid combinations. Late season plant health, grain quality, stalk lodging resistance, and kernel size are especially important in production, and were also important criteria considered during selection. Other selection criteria include: ability to germinate in adverse conditions, disease and insect resistance, pollen yield and tassel size.

Exhibit A: Developmental history for PH6WC

Season/Year Pedigree Grown	Inbreeding Level of Pedigree Grown
	·
PH01N/PH09B Summer 1995	F1
PH01N/PH09B)X Winter 1995	F2
PH01N/PH09B)XWK5 Summer 1996	F3
PH01N/PH09B)XWK52 Winter 1996	F4
PH01N/PH09B)XWK52K3 Summer 1997	F5
PH01N/PH09B)XWK52K31 Winter 1997	F6
PH01N/PH09B)XWK52K31K1 Summer 1998	F7
PH01N/PH09B)XWK52K31K1X	(SEED)

^{*}PH6WC was selfed and ear-rowed from F3 through F7 generation. #Uniformity and stability were established from F6 through F7 generation and beyond when seed supplies were increased.

Exhibit B: Novelty Statement

Variety PH6WC mostly resembles Pioneer Hi-Bred International, Inc. proprietary inbred line PHP38 (PVP Certificate No. 9000250). Table 1 shows data collected from Johnston and Dallas Center, Iowa in 2001 and 2004. Table 2 shows two sample t-tests on data collected primarily in the area of adaptation of PH6WC. The traits collectively show measurable differences between the two varieties.

Exhibit B: Novelty Statement

Variety PH6WC has fewer primary branches (1.9 vs 8.2) than variety PHP38 (Table 1).

Variety PH6WC has a higher GLFSPT score (6.3 vs 2.7) than variety PHP38 (Table 2).

Exhibit B: Novelty Statement Table(s)

Table 1: Data from Johnston and Dallas Center, Iowa in 2001 and 2004 presented by trait, across years, and broken out by year. Data are supporting evidence for differences between PH6WC and PHP38. Each year varieties were grown in 3 locations that had different environmental conditions. Environments had different planting dates and were in different fields. A two-sample t-test was used to compare differences between means.

/ branches
primary
to#)
branch
primary
Tassel

Level	Station	Year	Variety-1	Variety-2	Cnt-1	Cnt-2	Mean-1	Mean-2	Mean_Diff	•2	StDev-2	StErr-1	StErr-2	DF	t-Value	Prob Pool
Over All			PH6WC	PHP38	30	30	1.9	8.2	-6.3		2.079	0.262	0.380	58	-13.7	0.000
Year		2004	PH6WC	PHP38	15	15	2.2	7.9	-5.7		2.549	0.416	0.658	28	-7.4	0.000
Year		2001	PH6WC	· PHP38	15	15	1.7	8.5	-6.9	1.234	1.506	0.319	0.389	28	-13.7	0.000

PH6WC and PHP38. Each year varieties were grown in different locations that had different environmental conditions. Environments had different planting Table 2: Data from the area of adaptation of variety PH6WC presented by year and across years. Data are supporting evidence for differences between dates and were in different fields. A two-sample t-test was used to compare differences between means.

Prob	0.003	0.017	0.205	0.002	t •	0.000
Tvalue	17.0	4.9	3.0	7.3		12.0
SD2	2.8 1.0 1.3	8.0	0.7	1.3		1.1
SD1	1.0	1.4	0.7	1.1		1.2
Diff	2.8	3.6	3.0	4.0	4.0	3.5
COUNT	4	7	7	Ŋ	_	19
Mean2	2.2	3.1	3.5	2.6	7	2.7
Mean1	5	8.9	6.5	9.9	9	6.3
2 LEVEL	1998	1999	2000	2001	2003	OVERALL
1 VARIETY 2	PHP38	PHP38	PHIP38	PHIP38	PHP38	PHP38
	PH6WC	PH6WC	PH6WC	PH6WC	PH6WC	PH6WC
TRAIT	GLFSPT (score 1-9)					

Definitions

GLFSPT = Gray Leaf Spot (Cercospora zeae-maydis).

A 1 to 9 visual rating indicating the resistance to Gray Leaf Spot. A higher score indicates a higher resistance. Data are collected only when sufficient selection pressure exists in the experiment measured. Based on previous discussions with the PVP office the traits longitudinal creases and marginal leaf waves were not collected. These traits have low distinguishing power and are variable due to daily fluctuations in water status of the plants. Therefore, we eliminated them from our process based on previous feedback from the PVP office. For insect or disease traits we included data from disease pressure locations only if they were available and paired with the public check. Most often diseases and insect trials are conducted on hybrids since that is the product ultimately sold. In addition, creating consistent disease pressure and infestation levels is costly and difficult.

In cases where less than 15 observations are presented the trait was collected at the plot level as it always has been done in the past. This means many more plants were visually evaluated according to the procedure outlined below, and then a score of the "population" of the plants was recorded for each location.

The experimental design and methods for 2004 were as follows:

The experiment procedures involved three environments with different planting dates per year, planted in 17.42 ft. rows with 2 rows for each variety. Approximately 24-30 plants emerged in each of 2 rows for a total of around 48 to 60 plants being evaluated at each location and 144 to 180 plants across locations. For plant level traits, we sampled 5 representative plants from the 2 rows of the 2 row plot (group) of plants at each location. For plot level traits we evaluated the 2 row plot (group) and gave a representative score or average on the 48-60 plants in the group within an experiment.

Some traits can be especially variable under different environmental factors influenced by weather, soil type, or planting dates. Varying temperatures or day length could impact the meristem growth during various tissue differentiation stages. The meristem differentiation of the ear and other tissues could be impacted as well as the success of pollination during flowering and frequency of kernel abortion during grain fill.

We have included weather data in the table that follows.

84 p 44	GROW	GROWING DEGREE	EE UNITS	JNITS (GDI)'s)	Ī	PDECIDITATION /	ION /angle	
							ion (incres)	0
	2(2003		2004	20	2003	20	2004
	D. Center	Johnston	D. Center	Johnston	D. Cent	Johnston	O Center	lohneton
May	375	380	548	527	5.7	5.43	7 19	7.75
June	909	604	609	610	1.92	4 23	1 97	98
July	628	782	723	736	0.18	700	200	60.0
Allgirst	705	798	0.70	22.5		1.5	67.7	4 04
- American	3	200	710	CLO	0.44	0,51	195	4 95
September	456	468	598	260	2.19	2.52	1.38	1.24
TOTAL	2860	3020	0608	3048	10.43	16.09	14.78	21.87

Calculate GDU's

Growing Degree Units use following formula: GDU = ((T1+T2)/2)-50

Where T2 = maximum temperature for a given day with 86 degrees Fahrenheit as the maximum temperature used and 50 degrees Fahrenheit is the minimum temperature used. Where T1 = minimum temperature for a given day with 50 degrees Fahrenheit as the minimum temperature used and 86 degrees Fahrenheit is the maximum temperature used. GDU's are calculated each day and accumulated (summed) over certain number of days.

United States Department of Agriculture, Agricultural Marketing Service Science and Technology, Plant Variety Protection Office National Agricultural Library Building, Room 400 Beltsville, MD 20705-2351

OBJECTIVE DESCRIPTION OF VARIETY CORN (Zea mays L.)

Pioneer Hi-Bred Inte		l Variety Seed S	Source	l Variety Name or Te l PH6WC	emporary Designation
Address (Street & No	., or R.F.D. No., City, State, Zi	p Code and Country	FOR OFFICIA	L USE [PVPO Number
7301 NW 62nd Aven	ue, P.O. Box 85, Johnston, I	owa 50131-0085	1	201	0500252
adding leading zeroes	number that describes the var s if necessary. Completeness of y for an adequate variety descri	should be striven for to	establish an adequate var	e spaces below. Right ju iety description. Traits d	ustify whole numbers by lesignated by a "*" are
COLOR CHOICES (L 01. Light Green 02. Medium Green 03. Dark Green 04. Very Dark Greer 05. Green-Yellow	Jse in conjunction with Munsell 06. Pale Yellow 07. Yellow 08. Yellow-Orange 1 09. Salmon 10. Pink-Orange	color code to describe 11. Pink 12. Light Red 13. Cherry Red 14. Red 15. Red & White	all color choices; describe 16. Pale Purple 17. Purple 18. Colorless 19. White 20. White Capped		26. Other (Describe)
Yellow Dent Families Family B14 B37 B73 C103 Oh43	CHOICES [Use the most simils: s: Members CM105, A632, B64, B68 337, B76, H84 N192, A679, B73, Nc268 Mo17, Va102, Va35, A682 A619, MS71, H99, Va26 N64A, A554, A654, Pa91	lar (in background and r Yellow Dent (Unrelated) Co109, ND246 Oh7, T232 W117, W153R W182BN White Dent: Cl66, H105, Ky2	:	Sweet Corn: C13, Iowa5125 Popcorn:	5, P39, 2132 22, HP301, HP7211
	ntermediate types in "Commer , 2=Dent, 3=Flint, 4=Flour, 5=I		Pipecorn)	I Standard Inbred N I 2 Type	ame B73
	DEVELOPED IN THE U.S.A.: st, 2=N.Central, 3=N.East, 4=S		S.West, 7=Other	I Standard Seed So	urce PI 550473
DAYS H 71 70 3	gion Best Adaptability; show HIEAT UNITS 1,495.2 From emergence to 1,458.0 From 10% to 90% From 50% silk to o From 50% silk to him to 10% to 10% silk to him to 10% silk to him to 10% silk to 10% silk to him to 10% silk to	o 50% of plants in silk o 50% of plants in poller pollen shed	,	DAYS 69 68 2	HEAT UNITS 1,449.8 1,411.2 51
87.7 cm Ear H 15.0 cm Lengt 0.0 Average 1.1 Average	Height (to tassel tip) leight (to base of top ear node) h of Top Ear Internode Number of Tillers Number of Ears per Stalk nin of Brace Roots: 1=Absent,	1	Dev. Sample Size 22.18 30 15.49 30 2.50 30 0.01 6 0.22 6 4=Dark	<u>242.3</u> <u>99.7</u> <u>15.0</u> <u>0.0</u>	St.Dev. Sample Size 17.10 30 15.64 30 1.88 30 0.02 6 0.05 6
Application Variety D	ata	F	Page 1	I Standard Inbred D	ata

5. LEAF 10.9 cm Width of Ear Node Leaf 83.6 cm Length of Ear Node Leaf		Onner Of 1		01.5	O
	St.Dev.	Sample Size 1	Mean	St.Dev.	Sample Size
	<u>0.88</u>	<u>30</u> I	<u>9.2</u>	<u>0.86</u>	30
	<u>5.73</u>	<u>30</u> I	<u>81.3</u>	<u>3.36</u>	30
7.1 Number of leaves above top ear	<u>0.82</u>	<u>30</u> I	<u>6.5</u>	<u>0.68</u>	30
20.1 Degrees Leaf Angle	<u>5.24</u>	<u>30</u> I	<u>20.7</u>	<u>3.98</u>	30
(Measure from 2nd leaf above ear at anthesis to stalk abo	ove leaf)	1			
4 Leaf Color (Munsell Code) 7.5GY34		1	<u>4</u> (Munsell	Code) 7.5G	<u> 73/4</u>
2 Leaf Sheath Pubescence (Rate on scale from 1=none to		uzz) I	<u>3</u>		•
Marginal Waves (Rate on scale from 1=none to 9=many))	ı			
Longitudinal Creases (Rate on scale from 1=none to 9=n	nany)	I			
. TASSEL:	St.Dev.	Sample Size 1	Moon	Ct Day	Canada Ci-
1.9 Number of Primary Lateral Branches			Mean	St.Dev.	Sample Size
	<u>1.44</u>	<u>30</u> !	<u>7.6</u>	<u>1.19</u>	30
24.8 Degrees Branch Angle from Central Spike	<u>7.83</u>	<u>24</u> !	<u>17.2</u>	<u>7.28</u>	2 <u>2</u> 30
57.1 cm tassel Length	<u>5.21</u>	<u>30</u> I	<u>56.2</u>	4.48	<u>30</u>
(from top leaf collar to tassel tip)		1			
3 Pollen Shed (Rate on scale from 0=male sterile to 9=hea	avy shed)	1	<u>5</u>		
6 Anther Color (Munsell Code) 10YR76	•	1		Code) 5Y8.5	4
17 Glume Color (Munsell Code) 10RP2B		Ī		Code) 5GY5	
1 Bar Glumes (Glume Bands): 1=Absent, 2=Present		i	1	0000, <u>0014</u>	ᆮ
a. EAR (Unhusked Data):		۱ ،			
1 Silk Color (3 days after emergence) (Munsell Code)	2.50	GY8/6 I	1 Munsell	Code 2.5GY	/9 4
2 Fresh Husk Color (25 days after 50% silking) (Munsell C	Code) 5G	- 1 C	2 Munsell	Code 5GY7	
19 Dry Husk Color (65 days after 50% silking) (Munsell Cod	de) 5Y9			Code 2.5Y8	· ,
1 Position of Ear at Dry Husk Stage: 1=Upright, 2=Horizor	ntal 3=Penden			0000 <u>2.010</u>	
6 Husk Tightness (Rate on scale from 1=very loose to 9=v	kai, 5-r enden	k ·	₹		
2 Husk Extension (at harvest): 1=Short(ears exposed), 2=		\ 2 malana I	<u>2</u> <u>6</u> <u>2</u>		
(8-10cm beyond ear tip), 4=Very Long (>10cm)	Medium (Social	i), 3=Long	∠		
(b-10cm beyond ear tip), 4-very cong (>10cm)		Į			
o. EAR (Husked Ear Data)	St. Dev.	Sample Size 1	Mean	St.Dev.	Sample Size
15.5 cm Ear Length	1.38	່ <u>30</u> I	13.3	1.49	· <u>30</u>
45.1 mm Ear Diameter at mid-point	3.55	<u>30</u> i	<u>45.7</u>	2.35	30
142.6 gm Ear Weight	42.06	<u>30</u> i	134.8	32.65	31
15.7 Number of Kernel Rows					<u>30</u> 30
	<u>1.75</u>	<u>30</u> l	<u>17.7</u>	<u>1.75</u>	<u>3t</u>
2 Kernel Rows: 1=Indistinct, 2=Distinct		ļ	2		
2 Row Alignment: 1=Straight, 2=Slightly Curved, 3=Spiral		l	<u>2</u>		
10.3 cm Shank Length	<u>1.55</u>	<u>30</u> I	2 2 8.5	<u>2.35</u>	30
2 Ear Taper: 1=Slight cyl., 2=Average slightly con., 3=Extr	eme conical	_ !	<u>2</u>		
KERNEL (Dried):	St.Dev.	Sample Size I	Mean	St.Dev.	Sample Size
11.7 mm Kernel Length	<u>1.24</u>	<u>30</u> l	<u>11.6</u>	· <u>0.96</u>	<u>3</u> :
8.1 mm Kernel Width	<u>0.78</u>	<u>30</u> I	<u>7.0</u>	<u>0.49</u>	<u>30</u>
5.2 mm Kernel Thickness	0.70	<u>30</u> I	<u>3.9</u>	0.58	<u>30</u> 30
53.8 % Round Kernels (Shape Grade)	<u> 18.39</u>	<u>_6</u> 1	<u>21.2</u>	<u> 10.19</u>	<u> </u>
1 Aleurone Color Pattern: 1=Homozygous, 2=Segregating	(describe)	- i	1 (describe		-
7 Aleurone Color (Munsell Code) 10YR8			7 Munsell		Y8/12
		4 11: 1	7 Munsell		<u>(R7/12</u>
3 Endosperm Type: 1=Sweet(su1), 2=Extra Sweet(sh2), 3			3 (describe)	
Amylose Starch, 5=Waxy Starch, 6=High Protein, 7=High	Lysine, 8=Sup	er Sweet I			
(se), 9=High Oil, 10=Other		1	<u>24.5</u>	3.02	<u>6</u>
	<u>1.03</u>	<u>6</u> I			
(se), 9=High Oil, 10=Other				0/ 5	<u> </u>
(se), 9=High Oil, 10=Other	St.Dev.	Sample Size I	Mean	St.Dev	
(se), 9=High Oil, 10=Other			Mean 27.0	<u>1.26</u>	Sample Siz
(se), 9=High Oil, 10=Other	St.Dev.	Sample Size I	Mean	<u>1.26</u>	

Standard Inbred Data

 DISEASE RESISTANCE (Rate from 1(most susceptible) to 9 (m if not tested; leave Race or Strain Options blank if polygenic); 	nost resistant); leave blank	ļ.		
A. Leaf Blights, Wilts, and Local Infection Diseases		J 1		
_ Anthracnose Leaf Blight (Colletotrichum graminicola)		- !	A	
Common Rust (Puccinia sorghi)		!	_ Anthracnose Leaf Blight	
Common Smut (Ustilago maydis)			Common Rust	
Eyespot (Kabatiella zeae)		l I	_ Common Smut	
Goss's Wilt (Clavibacter michiganense spp. nebraskensis)		- !	Eyespot Goss's Wilt	
6 Gray Leaf Spot (Cercospora zeae-maydis)		1		
Helminthosporium Leaf Spot (Bipolaris zeicola)	Race	1	3 Gray Leaf Spot	Doos
7 Northern Leaf Blight (Exserohilum turcicum)	Race	1	 Helminthosporium Leaf Spot Northern Leaf Blight 	Race
Southern Leaf Blight (Exseronliam tarcicam)	Race	- ;	Southern Lear Blight	Race
Southern Rust (Puccinia Polysora)	Nace	ŀ	Southern Rust	i\ace
Stewart's Wilt (Erwinia stewartii)			Stewart's Wilt	
Other (Specify)		i	_ Other (Specify)	
B. Systemic Diseases		i	_ Other (opecity)	
Corn Lethal Necrosis (MCMV and MDMV)		í	Corn Lethal Necrosis	
Head Smut (Sphacelotheca reiliana)		i	Head Smut	
_ Maize Chlorotic Dwarf Virus (MCDV)		i	Maize Chlorotic Dwarf Virus	
Maize Chlorotic Mottle Virus (MCMV)			Maize Chlorotic Mottle Virus	
2 Maize Dwarf Mosaic Virus (MDMV) Strain		i		Strain
Sorghum Downy Mildew of Corn (Peronosclerospora sorgh	i)	i	Sorghum Downy Mildew of Co	
Other (Specify)	•7	i	Other (Specify)	
C. Stalk Rots		i	_ 0.1101 (0.00011)/	
5 Anthracnose Stalk Rot (Colletotrichum graminicola)		j	2 Anthracnose Stalk Rot	
Diplodia Stalk Rot (Stenocarpella maydis)		i	Diplodia Stalk Rot	
Fusarium Stalk Rot (Fusarium moniliforme)		ì	Fusarium Stalk Rot	
Gibberella Stalk Rot (Gibberella zeae)		i	Gibberella Stalk Rot	
Other (Specify)		i	Other (Specify)	
D. Ear and Kernel Rots		i		-
Aspergillus Ear and Kernel Rot (Aspergillus flavus)		i	_ Aspergillus Ear & Kernel Rot	
6 Diplodia Ear Rot (Stenocarpella maydis)		i	4 Diplodia Ear Rot	
5 Fusarim Ear and Kernel Rot (Fusarium moniliforme)		i	5 Fusarium Ear & Kernel Rot	
_ Gibberella Ear Rot (Gibberella zeae)		i	Gibberella Ear Rot	
Other (Specify)		i	Other (Specify)	
Application Variate Data	n a		Ctdd-bd-D-t-	
Application Variety Data	Page 3	ı	Standard Inbred Data	

Note: Use chart on first page to choose color codes for color traits.

Application Variety Data		Pa	ge 4	I Standard Inbred Data
11. INSECT RESISTANCE	(Rate from 1(most susceptible) to 9 (most resistar	nt): I eave blank	1
if not tested		St. Dev.	Sample Size	I St. Dev. Sample Si
Banks Grass Mite	(Oligonychus pratensis)			Banks Grass Mite
Com Earworm (Helicov				Corn Earworm
Leaf Feeding	, ,			Leaf Feeding
	mg larval wt.			
_ Ear Damage	0			Ear Damage
	Rhopalosiphum maidis)			Corn Leaf Aphid
Corn Sap Beetle	(Carpophilus dimidiatus)			Corn Sap Beetle
European Corn Borer (European Corn Borer
	pically Whorl Leaf Feeding)			1 1 st Generation
	Typically Leaf Sheath-Collar Feeding)			
Stalk Tunneling:	cm tunneled/plant			_ 2 nd Generation
Fall Armyworm (Spodo				
Leaf-Feeding	otera irugiperda)			I Fall Armyworm
				Leaf-Feeding
Silk-Feeding	mg iarvai wt.			<u> </u>
_ Maize Weevil (Sit	opnilus zeamais)			Maize Weevil
_ Northern Rootwor	m (Diabrotica barberi)			I Northern Rootworm
_ Southern Rootwor	m (Diabrotica undecimpunctata)			Southern Rootworm
Southwestern Corn Bor	er (Diatraea grandiosella)			I Southwestern Corn Borer
Leaf Feeding			g.	Leaf Feeding
Stalk Tunneling:	cm tunneled/plant			
Two-spotted Spide	er Mite (Tetranychus urticae)		***************************************	Two-spotted Spider Mite
Western Rootworn	n (Diabrotica virgifera virgifera)			Western Rootworm
_ Other (Specify)	(=.a=,0.000 vgo.a vgo.a)			I _ Other (Specify)
12. AGRONOMIC TRAITS:				
	days after anthesis) (Rate on scale from	om 1=worst to	o 9=excellent)	1 <u>3</u> Stay Green
	: 65 days after anthesis)			I % Dropped ears
_ % Pre-anthesis Br				I % Pre-anthesis Brittle Snapping
% Pre-anthesis Roo				I % Pre-anthesis Root Lodging
% Post-anthesis Ro	ot Lodging (at 65 days after anthesis)			I Post-anthesis Root Lodging
<u>6,456.0</u> Kg/ha Yield	l of Inbred Per Se (at 12-13% grain m	oisture)		5,200.0 Yield
13. MOLECULAR MARKER	S: (0=data unavailable; 1=data availa	ble but not su	ıpplied; 2=data suppli	ed.)
1 Isozymes	_ RFLP's	_ RAPD's		Other (Specify)
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Madison, WI.	uicy (Euitois). 1966. Com and Com ir	nprovement,	THIRD EDITION. Agronol	my Monograph 18. ASA, CSSA, SSSA,
	d Lines of Ohio A.E.S., Bul. 831. 1959	9.		
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COMMENTS (e.g. state how heat units were calculated, standard inbred seed source, and/or where data was collected. Continue in Exhibit D)

Insect, disease, brittle snapping and root lodging data are collected mainly from environment where variability for the trait can be obtained within the experiment.

CLARIFICATION OF DATA IN EXHIBITS B AND C

Please note the data presented in Exhibit B and C, "Objective Description of Variety," are collected primarily at Johnston and Dallas Center, Iowa. The data in Table 1 are from two sample t-tests using data collected in Johnston and Dallas Center, IA. Table 2 shows two sample t-tests on data collected primarily in the area of adaptation of PH6WC. These traits in exhibit B collectively show distinct differences between the two varieties.

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U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP	Application is required in order to determine certificate is to be issued (7 U.S.C. 2421). confidential until the certificate is issued (7	e if a plant variety protection The information is held
1.NAME OF APPLICANT(S) PIONEER HI-BRED INTERNATIONAL, INC.	2.TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME PH6WC
4 .ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 7301 NW 62 nd AVENUE P.O.BOX 85	5.TELEPHONE (include area code) 515-270-4051	6. FAX (include area code) 515-253-2125
JOHNSTON, IA 50131-0085	7.PVPO NUMBER	00500252
8.Does the applicant own all rights to the variety? Mark an "X" in the appropriate bi	· pr	□ NO
9.Is the applicant (individual or company) a U.S. national or a U.S. based company	? If no, give name of country. 🛛 YES	B □ NO
10. Is the applicant the original owner? ☑ YES ☐ NO If no, please and a. If the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s), is (are) the original rights to variety were owned by individual(s).	swer <u>one</u> of the following: ginal owner(s) a U.S. National(s)?	

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

Pioneer Hi-Bred International, Inc. (PHI), Des Moines, Iowa, and/or its wholly owned subsidiary Pioneer Overseas Corporation (POC), Des Moines, Iowa, is the employer of the plant breeders involved in the selection and development of PH6WC. Pioneer Hi-Bred International and/or Pioneer Overseas Corporation has the sole rights and ownership of PH6WC pursuant to written contracts that assign all rights in the variety to PHI and/or POC at the time such variety was created. No rights to this variety are retained by any individuals.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

☐ YES ☐ NO If no, give name of country

- 1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
- 2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
- 3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

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